

Please amend the claims as follows:

Please amend claims 58 and 71-72 to read as follows:

58. (Three Times Amended) A method for removing one or more artifacts from a measured biological response profile, said measured biological response profile comprising measurements of a plurality of cellular constituents of a living cell or organism in response to a perturbation to said living cell or organism, each of said one or more artifacts comprising an artifact pattern comprising changes in measurements of said cellular constituents resulting from deviation of one or more experimental variables from desired values, said method comprising subtracting said one or more artifact patterns from the measured biological response profile, thereby removing said one or more artifacts from said measured biological response profile.

71. (Twice Amended) A method for removing one or more artifacts from a measured biological response profile, said measured biological response profile comprising measurements of a plurality of cellular constituents of a living cell or organism in response to a perturbation to said living cell or organism, each of said one or more artifacts comprising changes in measurements of said cellular constituents resulting from deviation of one or more experimental variables from desired values, said method comprising subtracting an artifact template from the measured biological response profile, wherein said artifact template comprises an artifact signature having greatest similarity to said biological response profile and is obtained by a method comprising comparing said measured biological response profile to a library of artifact signatures, each of said artifact signatures comprising changes in amplitudes of measurements of said cellular constituents corresponding to different levels of said one or more experimental variables, said comparing comprising pattern matching of said measured biological response profile against said library; thereby removing said one or more artifacts from said measured biological response profile.

72. (Twice Amended) A method for removing one or more artifacts from a measured biological response profile, said measured biological response profile comprising measurements of a plurality of cellular constituents of a living cell or organism in response to a perturbation to said living cell or organism, each of said one or more artifacts comprising